



8 | PATENT

Appeal  
Brief  
5-18-04  
AP  
CJM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Barton A. SMITH et al.  
Serial No.: 09/845,552  
Group Art Unit: 2674  
Filed: April 30, 2001  
Examiner: Kimnhung T NGUYEN  
For: EDGE TOUCHPAD INPUT  
DEVICE

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

ON: May 5, 2004

BY: Ellen S. Ullman

APPELLANTS' BRIEF UNDER 37 C.F.R. §1.192

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P.O. Box 1450  
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Sir:

This Appellants' Brief is filed in response to a Final Office Action dated January 14, 2004 and a Notice of Appeal filed March 5, 2004. Reconsideration of the Application, withdrawal of the rejections and allowance of the claims is respectfully requested.

## I. REAL PARTY IN INTEREST

The real party in interest is International Business Machines (IBM) of Armonk, NY.

## II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

## III. STATUS OF CLAIMS

Claims 1-34 are pending. Claims 1-34 were finally rejected in the Office Action dated January 14, 2004. Claims 31-33 are indicated as allowable but were objected to as being dependent upon a rejected base claim. Claims 1-30 and 34 were substantively rejected and are on appeal.

Attached hereto is an Appendix containing a copy of claims 1-30 and 34 (in their current form), which are the claims involved in this appeal.

## IV. STATUS OF AMENDMENTS

Appellants submitted a response with amendment on July 12, 2003 in response to a non-final office action. This amendment dated July 12, 2003 was entered. The Examiner issued a final rejection of claims 1-30 and 34 in the Office Action of January 14, 2004. Appellants have submitted no response or amendment after the final office action dated January 14, 2004.

## V. SUMMARY OF THE INVENTION

The Appellants' invention is directed towards a touchpad input device, a method, and an electronic device, for utilizing touch input about at least a portion of at least one outside edge of a housing. Optionally, the touch input may be along a perimeter of the housing along the at least one outside edge of the housing. Specification, page 13, line 13 through page 14, line 13. Application of the present invention overcomes problems with the prior art by providing an efficient input device that is easy to use and allows the overall size and weight of an electronic device to be minimized. It solves several needs in the art by

providing touch input along at least one outside edge of a housing. The edge of an electronic device is a very valuable piece of virtually untapped real estate on the outside of the housing of electronic devices. Using tactile feel, the outside edge of the housing is also one of the most easily located areas on an electronic device. See the originally filed specification, on page 10, lines 7-20.

Various embodiments of the present invention are illustrated in the specification. FIGs. 1 and 3 of the specification illustrate a touchpad disposed about an outside edge of an electronic device housing. FIG. 2 illustrates a touchpad disposed substantially about a perimeter along an outside edge of an electronic device housing and FIG. 4 illustrates a touchpad disposed substantially about both an outside edge and a perimeter. Specification, page 14, lines 1-5.

## VI. ISSUE

Whether claims 1-30 and 34 are unpatentable under 35 U.S.C. §103(a) over Liao et al in view of Gerpheide.

## VII. GROUPING OF CLAIMS

Group I: Claims 1, 3-10, 12-14, 16-26, 29, 30 and 34 stand or fall together.

Group II: Claims 2 and 28 stand or fall together.

Group III: Claims 11 and 27 stand or fall together

Group IV: Claim 15.

## VIII. ARGUMENT

### A. WHETHER CLAIMS 1-30 and 34 ARE UNPATENTABLE OVER LIAO IN VIEW OF GERPHEIDE

In the Examiner's Office Action of January 14, 2004, the Examiner rejected claims 1-30 and 34 under 35 U.S.C. § 103(a) as being unpatentable

over Liao et al. (U. S. Patent No. 5,988,902) (Liao) in view of Gerpheide (U.S. Patent No. 6,507,338) (Gerpheide). Appellants respectfully submit that claims 1-30 and 34 are patentable over Liao in view of Gerpheide under 35 U.S.C. § 103(a) because neither Liao, nor Gerpheide, nor any combination of the two references teach the claimed limitations of: 1) a housing having at least one outside edge; at least one touchpad disposed along at least a portion of the at least one outside edge of the housing; and; a user input detector, electrically coupled to the at least one touchpad, for detecting user input from the at least one touchpad disposed along at least a portion of the outside edge of the housing; 2) at least one touchpad extends substantially about a perimeter of the housing along the at least one outside edge; 3) a display screen, wherein the at least one outside edge of the housing is located about at least one edge of the display, and the at least one touchpad is disposed along at least a portion of the at least one edge of the display; and 4) a plurality of touchpads disposed along at least a portion of the plurality of outside edges of the housing and each touchpad controls movement in one of at least two different one-dimensional axes.

Group I: Claims 1, 3-10, 12-14, 16-26, 29, 30 and 34

Appellants respectfully suggest selection of independent claim 1 as representative of the Group I claims. Independent claim 1 is directed towards an electronic device that has:

*a housing having at least one outside edge;*  
*at least one touchpad disposed along at least a portion of*  
*the at least one outside edge of the housing; and*  
*a user input detector, electrically coupled to the at least one*  
*touchpad, for detecting user input from the at least one touchpad*  
*disposed along at least a portion of the outside edge of the*  
*housing.*

To begin, Liao shows the touchpad 42 partitioned into portions, such as first portion 42a for button functions and a second portion for cursor movement.

See Liao, for example, column 4, lines 55-59, and column 5, lines 35-40, and FIG. 2. Appellants agree with the Examiner that Liao does not teach or suggest the touchpad being disposed along at least a portion of an outside edge (or along a perimeter) of the housing.

Gerpheide shows a touchpad 60 with a planar top surface 62 being divided into regions, such as two regions that are distinguished by touch. The border region 64 makes a continuous loop around a perimeter of the top surface 62 of the touchpad 60. The inner region 66 is separated from the border region 64 by a ridge 70 that is slightly raised above the surface 62 and easily discernible by touch. See Gerpheide, for example, FIGs. 4A and 4B, and column 7, lines 56-64, and column 8, lines 5-10. The touchpad regions 66 and 64 can be used by a user to extend a scroll function across a display. See Gerpheide, for example, column 9, lines 25-41. Appellants assert that it is clear that the different regions of the touchpad 60 taught by Gerpheide are all part of the same touchpad surface, and are in no way part of a housing.

The touchpad 60 of Gerpheide, with its planar top surface 62, corresponds to the touchpad 42 as taught in the Liao reference. Gerpheide does not address or mention any type of housing, Gerpheide simply discusses the top planar surface 62, and alternative touchpad surfaces 78, 80 without regard for a physical housing for those touchpad devices.

The exemplary embodiments described in the subject application, as exemplified by the embodiment illustration at FIGs. 1-4 of the Appellants' application, show touchpad input devices applied to various electronic devices. In particular, FIGs. 1 and 2 illustrate "a touchpad input device 102 disposed along the outside edge of a keyboard and a display[.]" Specification, page 12, lines 15-18. These figures clearly show that the presently claimed "outside edge" is the periphery of the housing of the electronic device, and is not simply the edge of

the touchpad itself. The specification itself further provides an explicit definition of the term "outside edge:"

*the term "outside edge" encompasses touchpads disposed about at least one outside edge 104, touchpads disposed substantially about a perimeter 110 along the at least one outside edge, and touchpads disposed about any combination thereof. Touchpads disposed about any corner edge 112 are also encompassed by the term "outside edge" as used herein.*

Specification, page 13, line 17 through page 14, line 1.

Gerpheide clearly does not teach or suggest a touchpad being disposed along at least a portion of an outside edge (or along a perimeter) of the housing. Appellants respectfully assert that the "outside edge" recited by claim 1 itself, with clear and explicit definition and support in the specification, clearly describes a periphery edge of the "housing" and is not anticipated or made obvious by "a touchpad (94) having four edges" as was asserted by the Examiner. Office Action dated January 14, 2004, page 2, 2<sup>nd</sup> paragraph.

As noted by the Examiner, Liao does not teach that the touchpad is disposed along at least a portion of an outside edge (or along a perimeter) of the housing. As discussed above, Gerpheide clearly does not teach or suggest a touchpad being disposed along at least a portion of an outside edge (or along a perimeter) of the housing. On the other hand, the presently claimed invention teaches, as recited for the representative independent Claim 1, the touchpad being disposed along at least a portion of the at least one outside edge of a housing. There is no teaching or suggestion in any of the cited references, or any combination thereof, of the touchpad being disposed along at least a portion of the at least one outside edge of a housing as recited for the presently claimed invention.

Appellants respectfully assert that when there is no suggestion or teaching in the prior art, the suggestion can not come from the Appellants' own specification. As the Federal Circuit has repeatedly warned against using the Appellants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings of the prior art. See MPEP §2143 and *Grain Processing Corp. v. American Maize-Products*, 840 F.2d 902, 907, 5 USPQ2d 1788 1792 (Fed. Cir. 1988) and *In re Fitch*, 972 F.2d 160, 12 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

Group II: Claims 2 and 28

Appellants respectfully suggest selection of dependent claim 2 as representative of the Group II claims. Claim 2 depends from claim 1 and includes the limitations of claim 1 that are discussed above. Dependent claim 2 is directed towards an electronic device that has at least one touchpad:

*wherein the at least one touchpad extends substantially about a perimeter of the housing along the at least one outside edge of the housing*

The only reference to this limitation of the Group II claims that the Appellants are able to identify in the basis for the Examiner's rejection is the reference that Gerpheide discloses "a touchpad (94) having four edges." Office Action dated January 14, 2004, page 2, paragraph 2. Appellants respectfully assert that "a touchpad having four edges" does not teach or make obvious "at least one touchpad [that] extends substantially about a perimeter of the housing along the ... edge of the housing."

Group III: Claims 11 and 27

Appellants respectfully suggest selection of dependent claim 11 as representative of the Group III claims. Claim 11 ultimately depends from claim 1 and includes the limitations of claim 1 that are discussed above. Dependent claim 11 is directed towards an electronic device that comprises a display having a display screen,

*wherein the at least one outside edge of the housing is located about at least one edge of the display, and the at least one touchpad is disposed along at least a portion of the at least one edge of the display*

Appellants respectfully assert that the Examiner did not address the limitation of “at least one touchpad is disposed along at least a portion of at least one edge of the display” in the basis for the rejections of the final office action.

The Liao reference teaches a touchpad (42) that is clearly remote from the display (40) of that disclosure. See Liao, FIG. 2. The Gerpheide reference makes no reference to any type of display at all. Appellants respectfully assert that the only teaching of having “at least one touchpad is disposed along at least a portion of at least one edge of the display” is in the Appellants’ own specification. As discussed above, when there is no suggestion or teaching in the prior art, the suggestion or teaching cannot come from the Appellants’ own specification.

Group IV: Claim 15

Claim 15 ultimately depends from claim 1 and includes the limitations of claim 1 that are discussed above. Dependent claim 15 is directed towards an electronic device that comprises a display and:

*wherein a plurality of touchpads are disposed along at least a portion of a plurality of outside edges of the housing and each touchpad controls movement in one of at least two different one-dimensional axes, whereby user input provided along the plurality of touchpads provides multi-dimensional manipulation of objects displayed on the display screen*

Appellants agree with the Examiner's observation that "Liao et al. do not teach ... wherein two touchpads are disposed along at least a portion of two outside edges of the housing, and multidimensional manipulation of object compress two-dimensional or three-dimensional manipulation of objects." Office Action dated January 14, 2004, page 3, first full paragraph. The Examiner goes on to cite Gerpheide as disclosing a touchpad "... also divided two touch pads (top and bottom touch pads 94) and an inherent with multidimensional manipulation comprise two or three-dimensional manipulation." *Id.* Appellants respectfully assert that this is not a teaching of the limitations claimed by claim 15.

The Examiner apparently is suggesting that there is a teaching of the limitation of claim 15 that "each touchpad controls movement in one of at least two different one-dimensional axes, whereby user input provided along the plurality of touchpads provides multi-dimensional manipulation of objects displayed on the display screen" as inherently contained in the cited references. The Appellants respectfully assert that the Examiner has improperly reasoned

that these elements of claim 15 are inherently disclosed, suggested or made obvious by the cited references.

Appellants fail to see how the cited references teach "each touchpad controls movement in one of at least two different one-dimensional axes" as is recited in claim 15. The only indication of this limitation is in the Appellants own specification, and as discussed above, when there is no suggestion or teaching in the prior art, the suggestion or teaching cannot come from the Appellants' own specification.

"The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic." MPEP §2112 (emphasis in original). The MPEP further notes that:

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" Id., citing *In re Roberson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-54 (Fed. Cir. 1999)

## IX. CONCLUSION

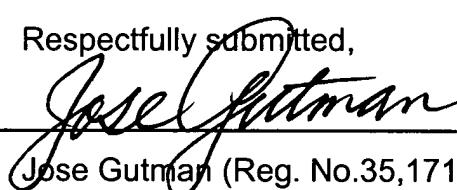
As discussed above, the cited prior art does not teach or suggest the elements claimed for the present invention. Specifically, the cited prior art does not teach or suggest:

- I) a housing having at least one outside edge; at least one touchpad disposed along at least a portion of the at least one outside edge of the housing; and; a user input detector, electrically coupled to the at least one touchpad, for detecting user input from the at least one touchpad disposed along at least a portion of the outside edge of the housing;
- II) at least one touchpad extends substantially about a perimeter of the housing along the at least one outside edge;
- III) a display screen, wherein the at least one outside edge of the housing is located about at least one edge of the display, and the at least one touchpad is disposed along at least a portion of the at least one edge of the display;
- IV) a plurality of touchpads disposed along at least a portion of the plurality of outside edges of the housing and each touchpad controls movement in one of at least two different one-dimensional axes.

For the reasons stated above, Appellants respectfully contend that each claim is patentable. Therefore, reversal of all rejections is courteously solicited.

Respectfully submitted,

Dated: May 5, 2004

By: 

Jose Gutman (Reg. No.35,171)  
Attorney for Appellants  
Fleit, Kain, Gibbons, Gutman,  
Bongini & Bianco P.L.  
One Boca Commerce Center, Suite 111  
551 N.W. 77<sup>th</sup> Street  
Boca Raton, FL 33487  
Tel. (561) 989-9811, Fax(561) 989-9812

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## X. APPENDIX

1. An electronic device comprising:
  - a housing having at least one outside edge;
  - at least one touchpad disposed along at least a portion of the at least one outside edge of the housing; and
  - a user input detector, electrically coupled to the at least one touchpad, for detecting user input from the at least one touchpad disposed along at least a portion of the outside edge of the housing.
2. The electronic device of claim 1, wherein the at least one touchpad extends substantially about a perimeter of the housing along the at least one outside edge of the housing.
3. The electronic device of claim 2, wherein the perimeter of the housing is rounded.
4. The electronic device of claim 1, wherein the user input detector comprises capacitive sensing technology for detecting user input.
5. The electronic device of claim 1, wherein the at least one touchpad comprises at least one of a distinctive shape and texture, for providing a tactile feedback to the user.

6. The electronic device of claim 1, wherein the housing comprises at least one of: a keyboard, a computer, and a display.
7. The electronic device of claim 1, wherein a sliding contact with the at least one touchpad causes an adjustment of a variable.
8. The electronic device of claim 1, wherein the housing has at least one outside corner edge and the at least one touchpad is disposed about the at least one outside corner edge of the housing.
9. The electronic device of claim 8, wherein the outside corner edge of the housing is rounded.
10. The electronic device of claim 1, wherein the housing comprises a display having a display screen.
11. The electronic device of claim 10, wherein the at least one outside edge of the housing is located about at least one edge of the display, and the at least one touchpad is disposed along at least a portion of the at least one edge of the display.
12. The electronic device of claim 10, further comprising a primary input device for controlling a pointer in the display, wherein the at least one touchpad

serves as a secondary input device for controlling at least one of the following: scrolling, zooming, three-dimensional manipulation, slider control, and adjusting a variable.

13. The electronic device of claim 10, wherein a sliding contact with the at least one touchpad causes at least one of the following manipulations of objects displayed on the display screen: scrolling, zooming, three-dimensional manipulation, pointer movement, slider control, and adjustment of a variable.

14. The electronic device of claim 10, wherein a sliding contact with the at least one touchpad along one outside edge provides one dimensional control of objects displayed on the display screen.

15. The electronic device of claim 10, wherein a plurality of touchpads are disposed along at least a portion of a plurality of outside edges of the housing and each touchpad controls movement in one of at least two different one-dimensional axes, whereby user input provided along the plurality of touchpads provides multi-dimensional manipulation of objects displayed on the display screen.

16. The electronic device of claim 15, wherein two touchpads are disposed along at least a portion of two outside edges of the housing and each of the two touchpads controls movement in one of two different one-dimensional axes,

whereby user input provided along the two touchpads provides multi-dimensional manipulation of objects displayed on the display screen.

17. The electronic device of claim 15, wherein the multi-dimensional manipulation of objects comprises two-dimensional manipulation of objects displayed on the display screen.

18. The electronic device of claim 15, wherein the multi-dimensional manipulation of objects comprises three-dimensional manipulation of objects displayed on the display screen.

19. A method comprising the steps of:  
touching about the outside edge of a housing;  
detecting the touching; and  
transmitting an electrical signal upon detecting the touching to a control circuit, wherein the control circuit acts upon the electrical signal.

20. The method of claim 19, wherein the step of touching is substantially about a perimeter along the outside edge of the housing.

21. The method of claim 19, wherein the step of touching comprises sliding along the outside edge of the housing.

22. The method of claim 19, further comprising the steps of:  
transmitting an output signal from the control circuit to a graphical display;  
and  
navigating within the display in accordance with the output signal.

23. The method of claim 19, wherein the housing comprises at least two different outside edges and the step of touching comprises using two hands to provide dual sliding contacts along the at least two different outside edges.

24. The method of claim 19, wherein the step of touching comprises using tactile feel to position at least one finger along the outside edge of the housing.

25. A touchpad input device comprising:  
a touchpad disposed along at least a portion of at least one outside edge of a housing;  
a user input detector, electrically coupled to the touchpad, for detecting user input from the touchpad and transmitting input signals; and  
a control circuit electrically coupled to the user input detector; wherein the control circuit acts upon the input signals from the user input detector.

26. The touchpad input device of claim 25, further comprising a display electrically coupled to the control circuit wherein the control circuit transmits output signals to the display.

27. The touchpad input device of claim 26, wherein the display is within the housing and the at least one outside edge of the housing is located about at least one edge of the display, and the touchpad is disposed along at least a portion of the at least one edge of the display.

28. The touchpad input device of claim 25, wherein the touchpad extends substantially about a perimeter of the housing along the at least one outside edge of the housing.

29. The touchpad input device of claim 25 wherein the user input detector comprises capacitive sensing technology for detecting user input.

30. The touchpad input device of claim 25 wherein the touchpad comprises at least one of a distinctive shape and texture, for providing a tactile feedback to the user.

34. The touchpad input device of claim 25, wherein the touchpad comprises a touchpad strip disposed along at least a portion of at least one outside edge of the housing for detecting user input along the touchpad strip.



AP/2674/ \$  
Docket No. ARC920000132US1  
6c03

In re application of ~~BRADY~~ A. SMITH et al.  
Serial No.: 09/845,552  
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For: EDGE TOUCHPAD INPUT DEVICE

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Sir:

Transmitted herewith, in triplicate, is Appellants' Brief in support of their appeal to the Board of Patent Appeals and Interferences from the decision dated January 14, 2004 of the Examiner finally rejecting claims 1-30 and 34 of the above-referenced application.

[ ] A petition for extension of time is enclosed.

[X] The Commissioner is hereby authorized to charge payment in the amount of \$ 330.00 to cover the filing fee to Deposit Account No. 09-0441.

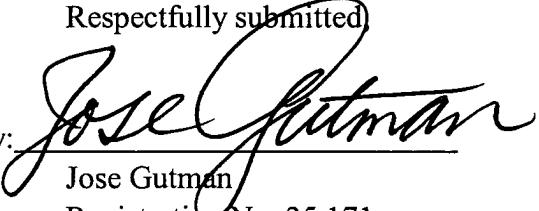
[ ] The Commissioner is hereby authorized to charge payment in the amount of \$ \_\_\_\_\_ to cover the extension fee to Deposit Account No. 50-1556.

[X] The Commissioner is hereby authorized to charge payment of any necessary fees associated with this communication, or credit any overpayment, to Deposit Account No. 09-0441.

Date: May 5, 2004

Respectfully submitted

By:

  
Jose Gutman  
Registration No. 35,171

FLEIT, KAIN, GIBBONS,  
GUTMAN, BONGINI & BIANCO P.L.  
One Boca Commerce Center  
551 Northwest 77th Street, Suite 111  
Boca Raton, Florida 33487  
Telephone: (561) 989-9811  
Facsimile: (561) 989-9812